

# Marbled Teal *Marmaronetta angustirostris* and Cape Teal *Anas capensis* on the Ounianga Lakes, northern Chad

Robert Schönbrodt

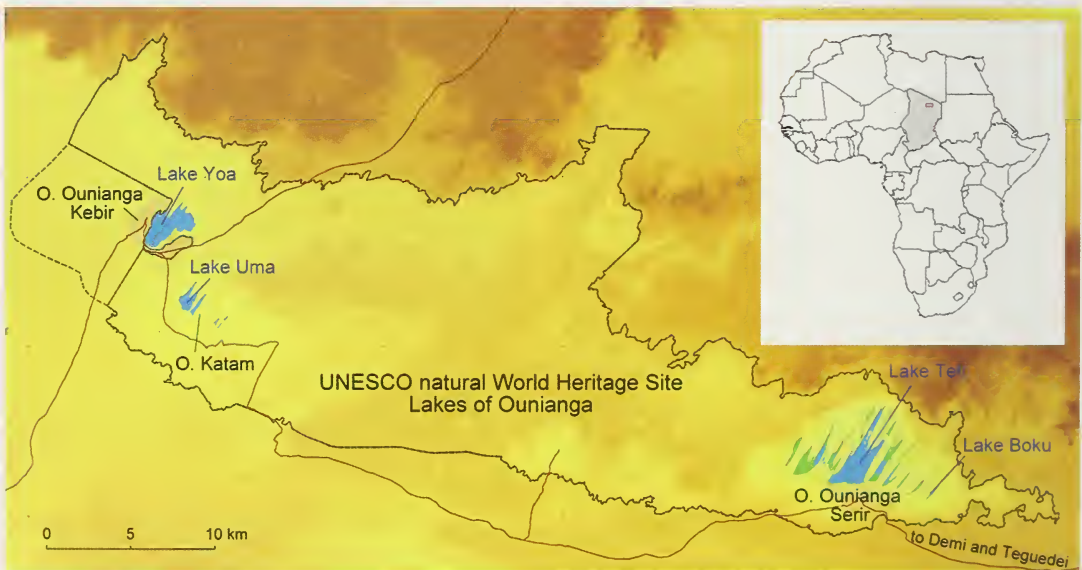
**Sarcelle marbrée *Marmaronetta angustirostris* et Canard du Cap *Anas capensis* sur les lacs d'Ounianga, Chad du nord.** En janvier 2009 >500 Sarcelles marbrées *Marmaronetta angustirostris* ont été observées sur les lacs d'Ounianga, au nord du Chad. Au cours d'une visite en décembre 2011, au moins 150 Sarcelles marbrées ont été recensées, ainsi que des Canards piletts *Anas acuta*, des Canards souchets *A. clypeata* et quatre Canards du Cap *A. capensis*. La mouche *Haloscattella dictaeta* a été identifiée comme faisant partie de la nourriture des sarcelles.

**Summary.** In January 2009 >500 Marbled Teal *Marmaronetta angustirostris* were observed on the Ounianga Lakes, northern Chad. During a further visit in December 2011 at least 150 Marbled Teal were recorded, as well as Northern Pintails *Anas acuta*, Northern Shovelers *A. clypeata* and four Cape Teal *A. capensis*. The fly species *Haloscattella dictaeta* was identified as part of the teal's diet.

In northern Chad, fairly deep, permanent desert lakes occur halfway between the Tibesti and Ennedi mountains. These are divided into two groups, c.40–50 km apart (19°03'N 20°29'E–18°54'N 20°55'E). The entire water surface of c.2,000 ha involves 18 lakes separated by sand deposited by the trade winds. The saline, hyper-saline and freshwater lake system is permanently fed by fossil groundwater inflow from the Nubian Sandstone Aquifer (Eggermont

*et al.* 2008, Francus *et al.* 2013). In December 2010 the Ounianga Lakes were integrated into the Chad nature reserve system as a Natural Site, and in July 2012 the latter was included, with the surrounding area totalling 62,808 ha, in the list of UNESCO World Heritage Sites. At present just 200–600 tourists visit the site annually.

In December 2008–January 2009, I took part in a three-week expedition to Ennedi. The itinerary included a visit to the oases and the Ounianga



**Figure 1.** Map of the Lakes of Ounianga World Heritage Site (from [whc.unesco.org/en/list/1400/documents/](http://whc.unesco.org/en/list/1400/documents/); accessed 1 December 2013)

Carte du Site du patrimoine mondial des lacs d'Ounianga (source: [whc.unesco.org/en/list/1400/documents/](http://whc.unesco.org/en/list/1400/documents/) ; consultée le 1 décembre 2013)

Lakes north-west of the Mourdi Depression on 4–6 January; from east to west: freshwater Lake Boku (or Boko), the southern shore of hyper-saline Lake Teli (c.436 ha; near Oasis Ounianga Serir), saline Lake Uma (near Oasis Katam) and the southern edge of hyper-saline Lake Yoa (with its 358 ha and max. dimensions of 3.5 × 2.5 km, the second largest of the Ounianga Lakes, after Oasis Ounianga Kebir) (Fig. 1).

In November–December 2011, I again participated in a three-week expedition to northern Chad, this time focused on the Tibesti Mountains. On 1–2 December, the opportunity arose to make bird observations on the shores of the same lakes visited in 2009.

### Observations

On 5–6 January 2009 a surprisingly large total of c.525 Marbled Teal *Marmaronetta angustirostris* was observed on three of the lakes, including at least 165 on Lake Teli, >320 on Lake Yoa and 40 on Lake Uma. Due to time restraints, not all of the lakes in the complex were visited. Many of the teal close to the southern shore of Lake Teli were foraging on the water surface (presumably on invertebrates), turning jerkily and picking rapidly left and right like phalaropes. No other duck species were observed. In addition to a few passerines, just a few Cattle Egrets *Bubulcus ibis*, an immature Black-crowned Night Heron *Nycticorax nycticorax* and ubiquitous Brown-necked Ravens *Corvus ruficollis* were seen.

On 1 December 2011, many ducks were again present on Lake Yoa, as in 2009. Murky weather, gusty winds, waves and the long-distance views meant that I could only estimate the presence of at least 300 ducks. Most were Marbled Teal; the rest included Northern Pintails *Anas acuta* and Northern Shovelers *A. clypeata*. Due to the heavy swell, it was impossible to determine if any other species were present. A Barbary Falcon *Falco pelegrinoides* and at least 45 Black-winged Stilts *Himantopus himantopus* were seen near the opposite shore.

On nearby Lake Uma no ducks were seen and no remains of invertebrates were found on the shoreline. Two Cattle Egrets were foraging at a freshwater spring on the southern cliff. A water sample taken from the southern shore had a salt content of 51.1 g/l NaCl (i.e. 5.11% salt content with a pH value of 9.85).

Next day, I observed 23 Marbled Teal on Lake Teli, from one of the few vegetation-free points on the southern shore (Fig. 2): three relatively close by and 20 further away in a bay with *Phragmites australis* reedbeds. A water sample had a salt content of 56.9 g/l NaCl (i.e. 5.69% with a pH value of 9.82). No other ducks were visible. The outer fringe of the reedbeds could not be seen as the shore vegetation was too high and dense. Due to a strong north-easterly wind, no ducks could be seen away from the shoreline of Lake Teli, a large waterbody lacking any shelter. Probably only a small number of the birds present could be observed. In addition to the regularly observed White Wagtails *Motacilla alba*, Subalpine Warblers *Sylvia cantillans*, White-crowned Wheatears *Oenanthe leucopyga* and Brown-necked Ravens, two foraging Red-throated Pipits *Anthus cervinus* were seen on the shoreline on 2 December, as well as a fly-over Cattle Egret.

On the small, easternmost, freshwater Lake Boku, a Common Coot *Fulica atra* was seen. The lake is partially covered by mats of floating vegetation and mostly surrounded by tall *Phragmites australis* reedbeds. A water sample had a salt content of just 0.0296 g/l NaCl (i.e. 0.003% salt content with a pH value of 7.53). At the north-west end of the lake (Fig. 3) four Cape Teal *Anas capensis* swam into cover in the reeds. Subsequently, an adult was seen close to the shore in the north-west corner, but veered towards the centre of the lake when followed along the shoreline (Fig. 8), before flying back to the reeds. It repeated this three times. The ducks that had disappeared earlier into the reeds were not seen again before I left Lake Boku at c.14.00 hrs. I consider the behaviour of the adult Cape Teal as indicative of breeding.

Because I observed Marbled Teal surface-feeding, in a phalarope-like manner, on 5 January 2009, I collected the presumed food using a scoop net. I found numerous pupae and empty puparia on the shoreline. Many Diptera were present on the clumps of salty foam on the shore, and were identified subsequently from photographs as shore flies (Ephydriidae). Apart from *Haloscotella dictaeta*, no other fly species was found in the samples. Ephydriidae are known to be part of the broad food spectrum of Marbled Teal (Inigo *et al.* 2008). The developmental stages of this fly should, for at least some time, provide adequate



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## Legend to figures on facing page

**Figure 2.** Lake Boku, Chad, view from the south-east to north-west, 4 January 2009 (Robert Schönbrodt)

Lac Boku, Chad ; vue du sud-est au nord-ouest, 4 janvier 2009 (Robert Schönbrodt)

**Figure 3.** Marbled Teal *Marmaronetta angustirostris* in front of the eastern cliffs of Lake Yoa, Chad, 5 January 2009 (Rudolf Sattler)

Sarcelles marbrées *Marmaronetta angustirostris* en face des falaises orientales du lac Yoa, Chad, 5 janvier 2009 (Rudolf Sattler)

**Figure 4.** Lake Uma, Katam, Chad, view from the southern shore towards the north-west, 5 January 2009 (Annegret Schönbrodt)

Lac Uma, Katam, Chad ; vue de la rive méridionale vers le nord-ouest, 5 janvier 2009 (Annegret Schönbrodt)

**Figure 5.** Lake Yoa, Ounianga Kebir, Chad, view from the raised south-west shore, towards the north-east, 1 December 2011 (Robert Schönbrodt)

Lac Yoa, Ounianga Kébir, Chad ; vue de la rive surélevée au sud-ouest vers le nord-est, 1 décembre 2011 (Robert Schönbrodt)

**Figure 6.** Lake Teli, Ounianga Sérir, Chad, view from the southern shore towards the north-east, 2 December 2011 (Robert Schönbrodt)

Lac Téli, Ounianga Sérir, Chad ; vue de la rive méridionale vers le nord-est, 2 décembre 2011 (Robert Schönbrodt)

**Figure 7.** North-western shore of Lake Boku, Ounianga Sérir, Chad, where Cape Teal *Anas capensis* were present, 2 December 2011 (Robert Schönbrodt)

Rive au nord-ouest du lac Boku, Ounianga Sérir, Chad, où le Canard du Cap *Anas capensis* était présent, 2 décembre 2011 (Robert Schönbrodt)

**Figure 8.** Cape Teal / Canard du Cap *Anas capensis*, Lake Boku, Chad, 2 December 2011 (Annegret Schönbrodt)

food for Marbled Teal at Ounianga Lakes. Huge numbers of insects occasionally occur in the area, as reported by Fuchs (1958), whose expedition reached the area in April 1954, and Willers (2005), who led a de-mining programme based at Oasis Ounianga Kebir for five months from September 2000.

## Discussion

Marbled Teal is categorised as Vulnerable (BirdLife International 2000, 2008) and has a fragmented Palearctic range. Both the Mediterranean and south-west Asian breeding populations have

contracted due to habitat loss. All efforts to protect the species are therefore important (Scott & Rose 1996). The western Mediterranean population comprises 3,000–5,000 individuals, the majority of them in Morocco, Algeria and Tunisia. Just 73–97 pairs breed in Spain with 2–3 pairs on Sicily (Inigo *et al.* 2008). Birds from the western Mediterranean population winter mainly in North Africa, where the species occasionally breeds. Many wintering areas north of the Sahara are well documented (see, e.g., Isenmann & Moali 2000, Isenmann *et al.* 2005, Metallaoui & Houhamdi 2008, Seddik *et al.* 2012, Bourass *et al.* 2013). Marbled Teal has also been recorded south of the Sahara, from Senegal through Burkina Faso, Nigeria, Cameroon and as far as Chad (Carboneras 1992, Green 1993, 1995, Scott & Rose 1996, Borrow & Demey 2004, Inigo *et al.* 2008).

For Chad, Scott & Rose (1996) mention only three key sites: Lake Chad (not annually, max. 45 in 1970), the Kanem Polder south of the Sahara (mean 35, max. 45 in 1970) and Lake Bagada north of the Ennedi Mountains at the southern edge of the Mourdi Depression (200 on a single occasion in 1962).

Dorst & Jouanin (1954) reported a Cape Teal and a Marbled Teal, both shot on a small lake (possibly Lake Boku) on 24 and 28 April 1954, respectively, by Colonel de Barmon, and did not exclude that one of these species resides year-round on the Ounianga Lakes and breeds there. This was repeated by Malbrant & Receveur (1955) and Dekeyser & Derivot (1968), without any new evidence.

The ethnologist Fuchs (1958), who reached Oasis Ounianga Kebir on 22 April 1956, describes his arrival as follows: 'A cool breeze wafted up to us from the lake [Lake Yoa]. ... Flocks of plump wild ducks, herons ... took to flight as we approached them closely.' Unfortunately, he did not recount which duck species he saw (P. Fuchs pers. comm. 2009).

Two reports from Ennedi by Kollmannsperger (1959) are also of interest. On 1 September 1957 on a lake in Wadi Rei in the central Ennedi he observed *c.*100 ducks that were greyer and paler than the Garganey *Anas querquedula* he had shot. On 24 September 1957 at Lake Bagada, north of Ennedi, some ducks took flight when he approached. Unfortunately, he made

no attempt to identify them. These locations are just 130 and 200 km distant from the Ounianga Lakes. Niethammer (1955) knew of further observations by Kollmannsperger in spring 1954: 'On individual waterbodies of the Oued Bougouro, which stretches east to west in the northern Ennedi, Kollmannsperger saw large groups of waders and ducks ... gathered on the most northerly of the waters. The waders were undoubtedly mostly migrants from northern latitudes, and the ducks (e.g. Egyptian Geese [*Alopochen aegyptiacus*] and Cape Teals) African birds that had evidently wandered beyond their northern breeding boundary.' In retrospect these flocks could have included Marbled Teal.

Residents of the Ounianga Kebir oasis, whom I asked my driver to question about the ducks, reported that the latter remained year-round, but they were unable to give any information on species. I was unable to discover whether Marbled Teal is resident on the lake, despite showing local people enlarged images of the species made especially for the purpose. Some of those questioned claimed to have seen clutches of duck eggs.

The occurrence of significant numbers of Marbled Teal makes the Ounianga Lakes particularly important for this globally threatened species. It needs to be clarified whether Marbled Teal also occur at other times of the year.

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